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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/867,236

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EXAMINER

WARE, CICELY Q

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/867,236

Applicant(s)

AGAMI ET AL.

Examiner

Cicely Ware

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5,8,11 and 13-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5,8,11 and 13-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u>1</u> |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 8 is objected to because of the following informalities:
 - a. With regard to claim 8, it is noted that attorney and examiner previously discussed changing claim 8 to recite, "permuting the decimated long code to produce plurality of permuted, decimated long codes", which is similar to the recitation of claim 1. Appropriate correction is required. Therefore claim 8 inherits all the limitations of claim 1.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 5, 8, 11, 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Needham et al. (US Patent 6,188,767) in view of Li et al. (US Patent 6,427,214).

(1) With regard to claim 1, Needham et al. discloses in (Fig. 3 and 6) an apparatus for data transmission within a spread-spectrum communication system (col. 1, lines 57-67 – col. 2, lines 1-5, col. 7, lines 34-46), the apparatus comprising: a long-code scrambler ((Fig. 3 (310), Fig. 4, col. 2, lines 6-21) having data symbols as an input

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and outputting the data symbols scrambled with a long code (col. 3, lines 64-67); and a modulator (Fig. 6 (615)) having the scrambled data symbols, as an input and outputting modulated scrambled data symbols (col. 4, lines 58-67), wherein the long-code scrambler comprises: a long code generator outputting a long code (Fig. 3 (310)); a decimator having the long code as an input and outputting a decimated long code (Fig. 3 (312)); and a permuter for outputting permuted long codes (col. 3, lines 35-53, col. 4, lines 11-38).

However Needham et al. discloses a permuter outputting a plurality of permuted codes.

However Li et al. discloses a permuter outputting a plurality of permuted codes (col. 7, lines 30-34).

Therefore it would have been obvious to one of ordinary skill in the art to modify Needham et al. in view of Li et al. to incorporate a permuter outputting a plurality of permuted codes in order to send the appropriate scrambling code for the forward transmissions.

It is well known in the art that a permuter with parallel permutations is less time consuming than serial permutations.

(2) With regard to claim 5, claim 5 inherits all the limitations of claim 1. Needham et al. further discloses in (Fig. 7) an apparatus for reception (702) of transmitted signals within a spread-spectrum communication system (col. 1, lines 57-67), the apparatus comprising: a demodulator (716) having a transmitted signal as an input and outputting

a demodulated signal ; and a long-code despreader having the demodulated signal as an input and outputting despread data (col. 5, lines 5-33).

Needham et al. does not explicitly disclose a despreader. It is well known in the art that if spreading is taking place in the transmitter then despreading is inherently taking place in the receiver.

(3) With regard to claim 8, see rejection of claim 1.

(4) With regard to claim 11, see rejection of claim 5.

(5) With regard to claim 13, see rejection of claim 1.

(6) With regard to claim 14, claim 14 inherits all the limitations of claim 13.

Needham et al. further discloses a plurality of scramblers having the plurality of permuted long codes as an input and outputting a plurality of scrambled data streams (col. 4, lines 11-38).

4. Claims 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Needham et al. (US Patent 6,188,767) in view of Li et al. (US Patent 6,427,214) as applied to claims 1 and 14, in view of Jou (US Patent 6,389,000) (previously cited).

(1) With regard to claim 15, claim 15 inherits all the limitations of claim 14.

Needham et al. in combination with Li et al. disclose all the limitations of claim 14.

However Needham et al. in combination with Li et al. do not disclose a plurality of quadrature amplitude, each having a scrambled data stream as an input and outputting a modulated data stream.

However Jou discloses in (Figs. 1 and 2) a plurality of quadrature amplitude modulators (Fig. 1 (20a-c), Fig. 2 (68a-c)), each having a scrambled data stream (Fig. 1 (8, 12), Fig. 2 (82, 62a-c)) as an input and outputting a modulated data stream (col. 2, lines 61-67).

Therefore it would have been obvious to one of ordinary skill in the art to modify the inventions of Needham et al. in combination with Li et al. in view of Jou to incorporate a plurality of quadrature amplitude, each having a scrambled data stream as an input and outputting a modulated data stream in order to provide flexibility in numerology and load balancing, better resolution in data rates and superior performance in the face of frequency dependent fading and uneven loading (Jou, col. 3, lines 58-63).

It is well known in the art that quadrature amplitude modulation is interchangeable with QPSK.

(2) With regard to claim 16, claim 16 inherits all the limitations of claim 1. Jou further discloses in (Figs. 1 and 2) wherein the modulator maps the scrambled data symbols to a constellation (col. 7, lines 17-21, 55-57).

(3) With regard to claim 17, claim 17 inherits all the limitations of claim 16. Jou further discloses in (Figs. 1 and 2) wherein the modulator is a quadrature amplitude modulator (Fig. 1 (20a-c), Fig. 2 (68a-c)) (col. 2, lines 61-67, col. 4, lines 46-48).

It is well known in the art that quadrature amplitude modulation is interchangeable with QPSK.

(4) With regard to claim 18, claim 18 inherits all the limitations of claim 5. Jou further discloses in (Fig. 3) wherein the demodulator is a quadrature amplitude demodulator (106 a-c) (col. 10, lines 17-26).

It is well known in the art that quadrature amplitude modulation is interchangeable with QPSK.

(5) With regard to claim 19, claim 19 inherits all the limitations of claim 8. See rejection of claim 16.

(6) With regard to claim 20, claim 20 inherits all the limitations of claim 19. See rejection of claim 15.

(7) With regard to claim 21, claim 21 inherits all the limitations of claim 11. Jou discloses in (Fig. 3) receiving and demodulating (106a-c) the transmitted signal comprises the step of receiving (102) and quadrature amplitude demodulating the received signal (col. 10, lines col. 10, lines 17-26).

It is well known in the art that quadrature amplitude modulation is interchangeable with QPSK.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 571-272-3047. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone numbers

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for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cicely Ware

cqw
October 26, 2005



STEPHEN CHIN
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